

Old #	Standard	ACADEMIC		
		AA		SPEAKING AND LISTENING
AA8	Demonstrate understanding of basic interpersonal communication (listening, written, oral, etc)	AA	1	Utilize effective verbal and non-verbal communication skills
AA13	Organize and deliver a persuasive oral presentation	AA	2	Participate in conversation, discussion, and group presentations
AA14	Demonstrate good speaking and presentation characteristics			
ED2	Interpret and clarify directions prepared by others	AA	3	Communicate and follow directions/procedures
ED3	Communicate with customers	AA	4	Communicate effectively with customers and co-workers
ED5	Identify appropriate communication methods			
		AB		READING AND WRITING
		AB	1	Locate and interpret written information
AA1	Read and process informaton and follow instructions	AB	2	Read and interpret workplace documents
AA2	Read material and describe concepts			
		AB	3	Identify relevant details, facts, and specifications
AA5	Write with accuracy, brevity, and clairty	AB	4	Record information accurately and completely
AA4	Use correct spelling, grammer, and punctuation	AB	5	Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, punctuation
AA3	Use correct terminology	AB	6	Demonstrate the ability to write clearly and concisely using industry specific terminology
ED4	Write steps of an occupational process using sentences and statements as appropriate			

		AC		CRITICAL THINKING AND PROBLEM SOLVING
		AC	1	Utilize critical-thinking skills to determine best options/outcomes (e.g., analyze reliable/unreliable sources of information, use previous experiences, implement crisis management, develop contingency planning)
EE1	Apply a system of problem solving	AC	2	Utilize innovation and problem-solving skills to arrive at the best solution for current situation
		AC	3	Implement effective decision-making skills
		AD		MATHEMATICS
AB1	Add, subtract, multiply, and divide for digit numbers with or without the use of a calculator	AD	1	Perform basic and higher level math operations (e.g., addition, subtraction, multiplication, division, decimals, fractions, units of conversion, averaging, percentage, proportion, ratios)
AB2	Apply basic math functions to solve problems			
AB7	Calculate with percents, rate, ratio, and proportion with the use of a calculator			
AB3	Convert between US and metric measurement systems	AD	2	Solve problems using measurement skills (e.g., distance, weight, area, volume)
AB4	Convert fractional measurement to decimal measurement			
AB5	Compute within measurement systems			
AB6	Document results of measurement activities and calculations			
AB9	Compute calculated measurements			
AB8	Same Verbiage	AD	3	Make reasonable estimates
		AD	4	Use tables, graphs, diagrams, and charts to obtain or convey information
		AD	5	Use deductive reasoning and problem-solving in mathematics
		AE		FINANCIAL LITERACY
		AE	1	Locate, evaluate, and apply personal financial information
		AE	2	Identify the components of a budget and how one is created

		AE	3	Set personal financial goals and develop a plan for achieving them
		AE	4	Use financial services effectively
		AE	5	Demonstrate ability to meet financial obligations
		AF		INTERNET USE AND SECURITY
		AF	1	Recognize the potential risks associated with Internet use
		AF	2	Identify and apply Internet security practices (e.g., password security, login, logout, log off, lock computer)
		AF	3	Practice safe, legal, and responsible use of technology in the workplace
		AG		INFORMATION TECHNOLOGY
AA7	Posses basic computer keyboarding skills	AG	1	Use technology appropriately to enhance professional presentations
AA17	Demonstrate use of an industry-accepted word processing software package			
		AG	2	Demonstrate effective and appropriate use of social media
		AG	3	Identify ways social media can be used as marketing, advertising, and data gathering tools
		AH		TELECOMMUNICATIONS
		AH	1	Select and use appropriate devices, services, and applications to complete workplace tasks
		AH	2	Demonstrate appropriate etiquette when using e-communications (e.g., cell phone, e-mail, personal digital assistants, online meetings, conference calls)
		EMPLOYABILITY		
		EA		POSITIVE WORK ETHIC
EA3	Same Verbiage	EA	1	Demonstrate enthusiasm and confidence about work and learning new tasks
EA1	Demonstrate consistently punctual arrival	EA	2	Demonstrate consistent and punctual attendance
EA2	Document regular attendance			
		EA	3	Demonstrate initiative in assuming tasks
		EA	4	Exhibit dependability in the workplace
AA9	Implement new process steps given oral instructions	EA	5	Take and provide direction in the workplace
EA11	Follow directions and procedures			

EB5	Match employee responsibilities to employer expectations	EA	6	Accept responsibility for personal decisions and actions
		EB		INTEGRITY
		EB	1	Abide by workplace policies and procedures
		EB	2	Demonstrate honesty and reliability
EB3	Identify good ethical characteristics and behaviors	EB	3	Demonstrate ethical characteristics and behaviors
EB8	Maintain confidentiality and sensitivity of company information	EB	4	Maintain confidentiality and integrity of sensitive company information
EC7	Explain the importance of a business reputation	EB	5	Demonstrate loyalty to the company
		EC		SELF-REPRESENTATION
EA4	Demonstrate appropriate dress and hygiene for successful employment	EC	1	Demonstrate appropriate dress and hygiene in the workplace
		EC	2	Use language and manners suitable for the workplace
EA5	Demonstrate the ability to act in a polite and respectful way towards co-workers	EC	3	Demonstrate polite and respectful behavior toward others
		EC	4	Demonstrate personal accountability in the workplace
		EC	5	Demonstrate pride in work
		ED		TIME, TASK, AND RESOURCE MANAGEMENT
EC1	Plan and manage work schedules	ED	1	Plan and follow a work schedule
EA13	Same Verbiage	ED	2	Work with minimal supervision
		ED	3	Work within budgetary constraints
EA6	Demonstrate the ability to complete tasks on time and accurately	ED	4	Demonstrate ability to stay on task to produce high quality deliverables on time
		EE		DIVERSITY AWARENESS
EB2	Identify the characteristics of a diverse workforce	EE	1	Recognize diversity, discrimination, harassment, and equity

EB6	Define discrimination, harassment, and equity			
EB7	Demonstrate non-discriminatory behavior			
		EE	2	Work well with all customers and co-workers
		EE	3	Explain the benefits of diversity within the workplace
		EE	4	Explain the importance of respect for feelings, values, and beliefs of others
		EE	5	Identify strategies to bridge cultural/generational differences and use differing perspectives to increase overall quality of work
		EE	6	Illustrate techniques for eliminating gender bias and stereotyping in the workplace
		EE	7	Identify ways tasks can be structured to accommodate the diverse needs of workers
		EE	8	Recognize the challenges and advantages of a global workforce
		EF		TEAMWORK
AA11	Contrast the roles of a team with the role of an individual	EF	1	Recognize the characteristics of a team environment and conventional workplace
EB1	Recognize the difference between a team environment workplace and a conventional workplace			
ED6	Identify components of group dynamics			
AA12	Perform techniques used as a team leader	EF	2	Contribute to the success of the team
ED7	Demonstrate productive relationships within the work group			
AA10	Demonstrate the characteristics of a team player	EF	3	Demonstrate effective team skills and evaluate their importance in the workplace (e.g., setting goals, listening, following directions, questioning, dividing work)
		EG		CREATIVITY AND RESOURCEFULNESS
		EG	1	Contribute new ideas
		EG	2	Stimulate ideas by posing questions
		EG	3	Value varying ideas and opinions
		EG	4	Locate and verify information

		EH		CONFLICT RESOLUTION
AA6	Demonstrate knowledge of conflict resolution techniques	EH	1	Identify conflict resolution skills to enhance productivity and improve workplace relationships
		EH	2	Implement conflict resolution strategies and problem-solving skills
		EH	3	Explain the use of documentation and it's role as a component of conflict resolution
		EI		CUSTOMER/CLIENT SERVICE
		EI	1	Recognize the importance of and demonstrate how to properly acknowledge customers/clients
EC5	Identify possible actions that may lead to customer dissatisfaction	EI	2	Identify and address needs of customers/clients
EC8	Identify possible actions that may be used to correct customer dissatisfaction			
		EI	3	Provide helpful, courteous, and knowledgeable service
		EI	4	Identify appropriate channels of communication with customers/clients (e.g., phone call, face-to-face, e-mail, website)
		EI	5	Identify techniques to seek and use customer/client feedback to improve company services
EC6	Identify the ways that the level of customer satisfaction may affect company success	EI	6	Recognize the relationship between customer/client satisfaction and company success
		EJ		ORGANIZATIONS, SYSTEMS, AND CLIMATES
AA16	Identify the organizational need for profit	EJ	1	Define profit and evaluate the cost of conducting business
EC9	Identify the effect of quality on profit			
		EJ	2	Identify "big picture" issues in conducting business
EC10	Identify the effects of continuous quality improvement	EJ	3	Identify role in fulfilling the mission of the workplace
		EJ	4	Identify the rights of workers (e.g., adult and child labor laws and other equal employment opportunity laws)
		EJ	5	Recognize the chain of command, organizational flow chart system, and hierarchy of management within an organization

		EK		JOB ACQUISITION AND ADVANCEMENT
EA7	Demonstrate the ability to make career decisions	EK	1	Recognize the importance of maintaining a job and pursuing a career
		EK	2	Define jobs associated with a specific career path or profession
		EK	3	Identify and seek various job opportunities (e.g., volunteerism, internships, co-op, part-time/full-time employment)
EA8	Prepare a resume and letter of application or interest	EK	4	Prepare a resume, letter of application, and job application
EA9	Complete an application for employment			
		EK	5	Prepare for a job interview (e.g., research company, highlight personal strengths, prepare questions, set-up a mock interview, dress appropriately)
EA10	Participate in an employment interview	EK	6	Participate in a job interview
		EK	7	Explain the proper procedure for leaving a job
		EL		LIFELONG LEARNING
		EL	1	Acquire current and emerging industry-related information
		EL	2	Demonstrate commitment to learning as a life-long process and recognize learning opportunities
		EL	3	Seek and capitalize on self-improvement opportunities
		EL	4	Discuss the importance of flexible career planning and career self-management
AA15	Demonstrate basic leadership skills	EL	5	Employ leadership skills to achieve workplace objectives (e.g., personal vision, adaptability, change, shared vision)
		EL	6	Recognize the importance of job performance evaluation and coaching as it relates to career advancement
EA12	Accept constructive criticism	EL	7	Accept and provide constructive criticism
		EL	8	Describe the impact of the global economy on jobs and careers
		EM		JOB SPECIFIC TECHNOLOGIES
		EM	1	Identify the value of new technologies and their impact on driving continuous change and the need for life-long learning
		EM	2	Research and identify emerging technologies for specific careers
		EM	3	Select appropriate technological resources to accomplish work
		EN		HEALTH AND SAFETY
		EN	1	Assume responsibility for safety of self and others
		EN	2	Follow safety guidelines in the workplace
		EN	3	Manage personal health and wellness
OCCUPATIONAL				

		OA		SAMPLE COLLECTION
OA1	Same Verbiage	OA	1	Identify sample types and sampling techniques, explain the importance of unbiased sampling and collect samples
OA3	Same Verbiage	OA	3	Determine the appropriate sampling techniques needed to generate statistical analysis data, and prepare valid chemical laboratory samples according to instructions
OA4	Same Verbiage	OA	4	Analyze and interpret results of sample measurements
OA5	Identify basic laboratory equipment and environmental monitoring instruments and explain their uses	OA	5	Identify and explain the use of basic laboratory equipment and environmental monitoring instruments
OA6	Same Verbiage	OA	6	Demonstrate the proper use and maintenance of basic laboratory equipment and environmental monitoring instruments
OA7	Same Verbiage	OA	7	Calibrate and use laboratory and field equipment and instruments according to standard operating procedures
		OB		LAWS AND REGULATIONS
OB1	Same Verbiage	OB	1	Identify laws associated with environmental service systems
OB2	Same Verbiage	OB	2	Identify the purposes of laws associated with environmental service systems
OB3	Same Verbiage	OB	3	Abide by the specific laws pertaining to environmental service systems
		OC		METEOROLOGICAL PRINCIPLES
OC1	Same Verbiage	OC	1	Identify components and structural layers of the earth's atmosphere
OC2	Same Verbiage	OC	2	Differentiate the types of weather systems and weather patterns
OC3	Same Verbiage	OC	3	Explain how meteorological conditions influence air quality
OC4	Same Verbiage	OC	4	Explain climate change and recognize signs of climate change
OC5	Same Verbiage	OC	5	Prepare a report on the environmental consequences of climate change
OC6	Same Verbiage	OC	6	Evaluate the predicted impacts of global climate change on environmental service systems
OC7	Same Verbiage	OC	7	Explain the earth's balance of energy
OC8	Same Verbiage	OC	8	Explain the basics of the greenhouse effect and describe how the greenhouse effect alters the earth's balance of energy
OC9	Same Verbiage	OC	9	Explain processes that contribute to the change in levels of greenhouse gases
		OD		SOIL SCIENCE
OD1	Same Verbiage	OD	1	Explain the process of soil formation through weathering
OD2	Same Verbiage	OD	2	Differentiate rock types and relate the chemical composition of mineral matter in soils to the parent material
OD3	Same Verbiage	OD	3	Apply knowledge of soil orders to environmental service systems

OD4	Same Verbiage	OD	4	Describe the biodiversity found in soil and the contribution of biodiversity to the physical and chemical characteristics of soil
OD5	Same Verbiage	OD	5	Relate the activities of microorganisms in soil to environmental service systems
OD6	Same Verbiage	OD	6	Evaluate the uses of soil microorganisms in environmental service systems
OD7	Same Verbiage	OD	7	Explain how the physical qualities of the soil influence the infiltration and percolation of water
OD8	Same Verbiage	OD	8	Identify the physical qualities of the soil that determine its use for environmental service systems
OD9	Same Verbiage	OD	9	Conduct tests of soil to determine its use for environmental service systems
OD10	Same Verbiage	OD	10	Identify land uses, capability factors, and land capability classes
OD11	Same Verbiage	OD	11	Use a soil survey to determine the land capability classes for different parcels of land in an area
OD12	Same Verbiage	OD	12	Design a master land-use management plan for a given area
OD13	Same Verbiage	OD	13	Explain sustainability of land uses
OD14	Same Verbiage	OD	14	Differentiate between sustainable and non-sustainable land uses
OD15	Same Verbiage	OD	15	Determine maximum sustainable production levels under different resource conditions
		OE		HYDROLOGY
OE1	Same Verbiage	OE	1	Describe the world's water supplies and discuss the many uses of water
OE2	Same Verbiage	OE	2	Describe characteristics of water that influence the biosphere and sustain life
OE3	Same Verbiage	OE	3	Research and debate one or more current environmental issues associated with the supplies of groundwater and surface water
OE4	Same Verbiage	OE	4	Demonstrate knowledge of hydrogeology by differentiating between groundwater and surface water
OE5	Same Verbiage	OE	5	Describe interactions between groundwater and surface water
OE6	Same Verbiage	OE	6	Use groundwater flow equations and Darcy's Law to explain how geology and meteorology affect groundwater and groundwater flow
OE7	Same Verbiage	OE	7	Define groundwater production potential
OE8	Same Verbiage	OE	8	Identify differences in groundwater production potential
OE9	Same Verbiage	OE	9	Delineate groundwater production potential zones
OE10	Same Verbiage	OE	10	Identify environmental hazards associated with groundwater supplies
OE11	Same Verbiage	OE	11	Describe precautions taken to prevent/reduce contamination of groundwater supplies
OE12	Same Verbiage	OE	12	Test and document the quality of groundwater supplies
OE13	Same Verbiage	OE	13	Discuss factors that influence the velocity of water through an open channel
OE14	Same Verbiage	OE	14	Explain how the velocity of water influences channel morphology and stream processes
OE15	Same Verbiage	OE	15	Measure and document water flow through an open channel and interpret channel flow analysis
OE16	Same Verbiage	OE	16	Identify the operational components of a pumping or fluid movement system
OE17	Same Verbiage	OE	17	Discuss design principles related to hydraulic systems and highflow technologies related to fluid movement
OE18	Same Verbiage	OE	18	Install and maintain pumps and associated delivery systems
		OF		WETLANDS

OF1	Same Verbiage	OF	1	Describe the functions of wetlands and differentiate types of wetlands
OF2	Same Verbiage	OF	2	Explain the criteria for classifying wetlands
OF3	Same Verbiage	OF	3	Apply the Hydrogeomorphic (HGM) Approach and National Wetland Inventories (NWI) to determine the classifications for local wetlands
OF4	Same Verbiage	OF	4	Identify the major types of living organisms that inhabit wetlands
OF5	Same Verbiage	OF	5	Identify the predominant species in a local wetland
OF6	Same Verbiage	OF	6	Conduct a survey of the predominant species in a local wetland
OF7	Same Verbiage	OF	7	Explain the importance of wetland management, creation, enhancement, and restoration programs
OF8	Same Verbiage	OF	8	Identify techniques used in wetland management, creation, enhancement, and restoration programs
OF9	Same Verbiage	OF	9	Evaluate and document the condition of a local wetland and apply techniques to manage, create, enhance, and/or restore local wetlands
		OG		CHEMISTRY
OG1	Same Verbiage	OG	1	Explain basic chemistry principles
OG2	Same Verbiage	OG	2	Distinguish the characteristics of inorganic and organic compounds as they relate to environmental service systems
OG3	Same Verbiage	OG	3	Apply standard operating procedures for use of chemicals in environmental service systems
		OH		MICROBIOLOGY
OH1	Same Verbiage	OH	1	Identify the basic structures of microorganisms and the major groups of microorganisms
OH2	Same Verbiage	OH	2	Describe microbial growth in the environment and analyze the influence of environmental factors on microbial growth
OH3	Same Verbiage	OH	3	Collect, culture, and examine microorganisms following safety procedures
OH4	Same Verbiage	OH	4	Define the purposes of bioassay test
OH5	Same Verbiage	OH	5	Outline procedures for a bioassay test
OH6	Same Verbiage	OH	6	Conduct bioassay test related to environmental service systems and interpret results
		OI		POLLUTION CONTROL
OI1	Same Verbiage	OI	1	Identify types of pollution and distinguish between point source and nonpoint source pollution
OI2	Same Verbiage	OI	2	Give examples of how industrial and non industrial pollution has damaged the environment
OI3	Same Verbiage	OI	3	Survey the local area for evidence of industrial and non industrial pollution
OI4	Same Verbiage	OI	4	Describe ways in which pollution can be managed and prevented
OI5	Same Verbiage	OI	5	Conduct tests to determine the presence and extent of pollution
OI6	Same Verbiage	OI	6	Plan and develop a pollution remediation, management, or prevention program
		OJ		WASTE DISPOSAL
OJ1	Same Verbiage	OJ	1	Describe different types of solid waste
OJ2	Same Verbiage	OJ	2	Evaluate environmental hazards created by different types of solid waste, solid waste accumulation, and solid waste disposal

OJ3	Same Verbiage	OJ	3	Analyze environmental hazards associated with the identification and acceptance of solid waste disposal sites
OJ4	Same Verbiage	OJ	4	Discuss practical management options for treating solid waste
OJ5	Same Verbiage	OJ	5	Identify characteristics of solid waste treatment and recognize the byproducts of solid waste treatment
OJ6	Same Verbiage	OJ	6	Collect and treat solid waste materials
OJ7	Same Verbiage	OJ	7	Define sanitary landfill
OJ8	Same Verbiage	OJ	8	Explain basic sanitary landfill operating procedures and design
OJ9	Same Verbiage	OJ	9	Evaluate sanitary landfill procedures
OJ10	Same Verbiage	OJ	10	Define compost and composting
OJ11	Same Verbiage	OJ	11	Explain scientific principles related to composting
OJ12	Same Verbiage	OJ	12	Evaluate methods of operating a composting facility
OJ13	Same Verbiage	OJ	13	Explain the basic concepts associated with solid waste incineration
OJ14	Same Verbiage	OJ	14	Describe the environmental impact of solid waste incineration
OJ15	Same Verbiage	OJ	15	Evaluate methods of incinerating solid waste, including those used in waste to energy plants
OJ16	Same Verbiage	OJ	16	Explain the importance of recycling
OJ17	Same Verbiage	OJ	17	Describe recycling methods and identify materials that can be recycled
OJ18	Same Verbiage	OJ	18	Survey and evaluate local recycling programs and procedures
		OK		WATER TREATMENT
OK1	Same Verbiage	OK	1	Identify chemical and physical properties of drinking water
OK2	Same Verbiage	OK	2	Illustrate the steps in the public drinking water treatment process
OK3	Same Verbiage	OK	3	Demonstrate the use of water testing instruments and water treatment equipment for processing public drinking water
OK4	Same Verbiage	OK	4	Define source water quality
OK5	Same Verbiage	OK	5	Define source water assessment steps
OK6	Same Verbiage	OK	6	Conduct and interpret source water assessments
		OL		WASTEWATER TREATMENT
OL1	Same Verbiage	OL	1	Define wastewater
OL2	Same Verbiage	OL	2	Diagram the steps in wastewater treatment
OL3	Same Verbiage	OL	3	Demonstrate the use of water testing instruments and water treatment equipment to treat wastewater
		OM		HAZARDOUS MATERIALS
OM1	Same Verbiage	OM	1	Identify types of hazardous materials
OM2	Same Verbiage	OM	2	Describe risks related to hazardous materials and describe health and safety practices to reduce risk from hazardous material
OM3	Same Verbiage	OM	3	Describe the procedures for the treatment and disposal of hazardous materials and hazardous waste
		ON		ENERGY SOURCES

ON1	Same Verbiage	ON	1	Identify conventional energy sources and list conservation measures to reduce energy consumption
ON2	Same Verbiage	ON	2	Identify advantages and disadvantages to conventional energy sources
ON3	Same Verbiage	ON	3	Evaluate the impact that burning fossil fuels has on the environment
ON4	Same Verbiage	ON	4	Identify alternative energy sources
ON5	Same Verbiage	ON	5	Identify advantages and disadvantages to alternative energy sources
ON6	Same Verbiage	ON	6	Evaluate the impact of alternative energy sources on the environment
		OO		MAPPING LAND AND FACILITIES
OO1	Same Verbiage	OO	1	Explain the importance of surveying and mapping for environmental service systems
OO2	Same Verbiage	OO	2	Explain surveying/mapping principles and identify/explain the use of equipment for surveying and mapping
OO3	Same Verbiage	OO	3	Demonstrate surveying and cartographic skills to make site measurements and map facility accesses and infrastructure
		OP		EQUIPMENT MAINTENANCE
OP1	Same Verbiage	OP	1	Demonstrate proper use and maintenance of hand tools
OP2	Same Verbiage	OP	2	Operate equipment and machinery in accordance with manufacturers' instructions and OSHA standards, specifically addressing personal protective equipment and proper machine guarding
OP3	Same Verbiage	OP	3	Demonstrate proper preventive maintenance techniques and set up a mock preventive maintenance schedule
		OQ		NATURAL RESOURCE OVERVIEW
OQ1	Same Verbiage	OQ	1	Identify natural resources
OQ2	Same Verbiage	OQ	2	Differentiate between renewable and nonrenewable natural resources
OQ3	Same Verbiage	OQ	3	Research and debate one or more current issues related to the conservation or preservation of natural resources
OQ4	Same Verbiage	OQ	4	Define ecosystem and related terms
OQ5	Same Verbiage	OQ	5	Describe the interdependence of organisms within an ecosystem
OQ6	Same Verbiage	OQ	6	Conduct a field study of an ecosystem and record/document observations of species interactions
		OR		NATURAL RESOURCE CLASSIFICATION
OR1	Same Verbiage	OR	1	Describe morphological characteristics used to identify trees and other woody plants
OR2	Same Verbiage	OR	2	Identify trees and other woody plants
OR3	Same Verbiage	OR	3	Conduct a field inventory of trees and other woody plants, and record/document findings
OR4	Same Verbiage	OR	4	Describe morphological characteristics used to identify herbaceous plants
OR5	Same Verbiage	OR	5	Identify herbaceous plants
OR6	Same Verbiage	OR	6	Conduct a field inventory of herbaceous plants, and record and document findings
OR7	Same Verbiage	OR	7	Describe morphological characteristics used to identify wildlife species
OR8	Same Verbiage	OR	8	Identify wildlife species
OR9	Same Verbiage	OR	9	Conduct a field inventory of wildlife species, and record and document findings

OR10	Same Verbiage	OR	10	Describe morphological characteristics used to identify aquatic species
OR11	Same Verbiage	OR	11	Identify aquatic species
OR12	Same Verbiage	OR	12	Conduct a field inventory of aquatic species, and record/document findings
OR13	Same Verbiage	OR	13	Demonstrate techniques used to identify rock, mineral, and soil types
OR14	Same Verbiage	OR	14	Identify rock, mineral, and soil types
OR15	Same Verbiage	OR	15	Conduct a field inventory of rock, mineral, and soil types and record/document findings
		OS		SAFETY PLANS
OS1	Same Verbiage	OS	1	Identify hazards associated with the outdoor environment
OS2	Same Verbiage	OS	2	Demonstrate safety practices when working in an outdoor environment
OS3	Same Verbiage	OS	3	Demonstrate appropriate responses to accidents and injuries that occur in an outdoor environment
OS4	Same Verbiage	OS	4	Recognize biohazards associated with natural resources
OS5	Same Verbiage	OS	5	Use appropriate techniques and equipment when working with biohazards
OS6	Same Verbiage	OS	6	Demonstrate appropriate responses for disasters involving biohazardous materials
		OT		CARTOGRAPHIC SKILLS
OT1	Same Verbiage	OT	1	Demonstrate how to use maps to identify directions, features, calculate actual distance, and determine the elevations of points
OT2	Same Verbiage	OT	2	Locate natural resources using a land survey and geographic coordinate system
OT3	Same Verbiage	OT	3	Employ Global Positioning System and Geographic Information Systems technologies to inventory features in natural resource management
		OU		EVALUATE RESOURCES
OU1	Same Verbiage	OU	1	Describe the value of resource inventories and population studies
OU2	Same Verbiage	OU	2	Discuss the procedures for conducting resource inventories and population studies
OU3	Same Verbiage	OU	3	Conduct resource inventories and population studies to assess resource status
		OV		NATURAL RESOURCE ENHANCEMENT
OV1	Same Verbiage	OV	1	Identify the different kinds and classification systems of streams
OV2	Same Verbiage	OV	2	Identify indicators of the biological health of a stream
OV3	Same Verbiage	OV	3	Create and implement a stream enhancement plan
OV4	Same Verbiage	OV	4	Identify characteristics of a healthy forest
OV5	Same Verbiage	OV	5	Identify ways in which forest stands may be improved
OV6	Same Verbiage	OV	6	Formulate a forest management plan
OV7	Same Verbiage	OV	7	Identify characteristics of a healthy wildlife habitat
OV8	Same Verbiage	OV	8	Identify methods of wildlife habitat improvement
OV9	Same Verbiage	OV	9	Conduct a survey of a habitat and devise a comprehensive improvement plan
OV10	Same Verbiage	OV	10	Identify characteristics of a healthy rangeland

OV11	Same Verbiage	OV	11	Identify methods of rangeland improvement
OV12	Same Verbiage	OV	12	Evaluate a rangeland and develop a management plan for improvement
OV13	Same Verbiage	OV	13	Identify natural resource characteristics desirable for recreational purposes
OV14	Same Verbiage	OV	14	Identify natural resource management techniques for improving recreation opportunities
OV15	Same Verbiage	OV	15	Evaluate the impact of recreational activities on natural resources and create an improvement plan
OV16	Same Verbiage	OV	16	Identify characteristics of healthy marine and coastal natural resources
OV17	Same Verbiage	OV	17	Identify methods to improve marine and coastal natural resources
OV18	Same Verbiage	OV	18	Assess marine and coastal natural resources and prepare an improvement plan
		OW		NATURAL RESOURCE LAWS
OW1	Same Verbiage	OW	1	Identify laws associated with natural resource systems
OW2	Same Verbiage	OW	2	Identify the purposes of laws associated with natural resource systems
OW3	Same Verbiage	OW	3	Abide by specific laws pertaining to natural resource systems
OW4	Same Verbiage	OW	4	Define mitigation
OW5	Same Verbiage	OW	5	Identify issues involving mitigation of natural resources
OW6	Same Verbiage	OW	6	Demonstrate mitigation techniques for natural resources
		OX		ECOLOGICAL CONCEPTS
OX1	Same Verbiage	OX	1	Identify biogeochemical cycles
OX2	Same Verbiage	OX	2	Diagram biogeochemical cycles and explain the processes
OX3	Same Verbiage	OX	3	Determine the human influence on biogeochemical cycles
OX4	Same Verbiage	OX	4	Describe properties of watersheds and identify the boundaries of local watersheds
OX5	Same Verbiage	OX	5	Describe the relationship of watersheds to natural resources
OX6	Same Verbiage	OX	6	Analyze ecosystem functions of a watershed
OX7	Same Verbiage	OX	7	Compare and contrast groundwater and surface water flow
OX8	Same Verbiage	OX	8	Explain stream and karst hydrology and structure, and determine the different classes of streams
OX9	Same Verbiage	OX	9	Classify and predict the behavior of local streams
OX10	Same Verbiage	OX	10	Define riparian zones and riparian buffers and explain their functions
OX11	Same Verbiage	OX	11	Identify techniques used in the creation, enhancement, and management of riparian zones and riparian buffer
OX12	Same Verbiage	OX	12	Create, enhance, and manage riparian zones and riparian buffers
OX13	Same Verbiage	OX	13	Describe the processes associated with ecological succession
OX14	Same Verbiage	OX	14	Give examples of primary succession and secondary succession species in a community of organisms
OX15	Same Verbiage	OX	15	Conduct a field study to determine the stages of ecological succession in a community of organisms
OX16	Same Verbiage	OX	16	Explain population ecology, population density, and population dispersion
OX17	Same Verbiage	OX	17	Discuss factors that influence population density and population dispersion

OX18	Same Verbiage	OX	18	Create and implement a management plan based on a population study for a community of organisms
OX19	Same Verbiage	OX	19	Define and identify invasive species
OX20	Same Verbiage	OX	20	Discuss factors that influence the establishment and spread of invasive species
OX21	Same Verbiage	OX	21	Develop and implement a plan to reduce the impact of invasive species on natural resources
OX22	Same Verbiage	OX	22	Describe sources of pollution and define between point and nonpoint source pollution
OX23	Same Verbiage	OX	23	Describe the impact of pollution on natural resources
OX24	Same Verbiage	OX	24	Create and implement a plan to prevent or limit the effects of pollution on natural resources
OX25	Same Verbiage	OX	25	Describe climatic factors that influence natural resources
OX26	Same Verbiage	OX	26	Describe the impact climate has on natural resources
OX27	Same Verbiage	OX	27	Monitor the effects of climate on plants and wildlife
		OY		NATURAL RESOURCES PRODUCTION AND HARVEST
OY1	Same Verbiage	OY	1	Describe forest harvesting methods
OY2	Same Verbiage	OY	2	Determine when to harvest forest products
OY3	Same Verbiage	OY	3	Harvest forest products according to principles of sustainable forest management
OY4	Same Verbiage	OY	4	Describe uses of tree species
OY5	Same Verbiage	OY	5	Describe processing of forest products
OY6	Same Verbiage	OY	6	Process forest products
OY7	Same Verbiage	OY	7	Identify wildlife species that can be sustainably harvested
OY8	Same Verbiage	OY	8	Describe techniques used in the harvesting of wildlife
OY9	Same Verbiage	OY	9	Formulate a management plan for protecting wildlife from overexploitation
OY10	Same Verbiage	OY	10	Identify products obtained from wildlife species
OY11	Same Verbiage	OY	11	Describe techniques used in the processing of wildlife
OY12	Same Verbiage	OY	12	Process harvested wildlife
OY13	Same Verbiage	OY	13	Describe the value of minerals and ores to the economy
OY14	Same Verbiage	OY	14	Describe economically important minerals and ores that are extracted and processed
OY15	Same Verbiage	OY	15	Give examples of methods used to extract and process minerals and ores
OY16	Same Verbiage	OY	16	Describe the value of fossil fuels to the economy
OY17	Same Verbiage	OY	17	Describe sources of fossil fuels and products made from fossil fuels
OY18	Same Verbiage	OY	18	Give examples of methods used to extract and process fossil fuels
OY19	Same Verbiage	OY	19	Describe the benefits of non fossil fuel generation
OY20	Same Verbiage	OY	20	Describe characteristics of sites that lend themselves to non fossil fuel generation
OY21	Same Verbiage	OY	21	Describe non fossil fuel generation techniques and procedures, and prepare a report on the impacts of hydroelectric dams on aquatic systems
OY22	Same Verbiage	OY	22	Identify recreational uses of natural resources

OY23	Same Verbiage	OY	23	Debate an issue related to the recreational use of natural resources
OY24	Same Verbiage	OY	24	Evaluate a natural resource site and recommend opportunities for recreational activities
OY25	Same Verbiage	OY	25	Identify aquatic species harvested for commercial and recreational purposes
OY26	Same Verbiage	OY	26	Describe techniques used to harvest aquatic species
OY27	Same Verbiage	OY	27	Harvest aquatic species according to sustainable management principles
OY28	Same Verbiage	OY	28	Identify uses of aquatic species
OY29	Same Verbiage	OY	29	Explain techniques used to process aquatic species
OY30	Same Verbiage	OY	30	Process harvested aquatic species
		OZ		FIRE MANAGEMENT
OZ1	Same Verbiage	OZ	1	Differentiate between desirable and undesirable fires and prepare a report on the role fire plays in an ecosystem
OZ2	Same Verbiage	OZ	2	Describe techniques used to suppress wildfires and manage prescribed fires
OZ3	Same Verbiage	OZ	3	Demonstrate the application of fire suppression and fire safety techniques
		OAA		DISEASE CONTROL
OAA1	Same Verbiage	OAA	1	Identify causes of disease in plants
OAA2	Same Verbiage	OAA	2	Report the observance of disease affecting plants to the appropriate authorities
OAA3	Same Verbiage	OAA	3	Explain management techniques used to reduce infection and spread of plant disease in natural resources
OAA4	Same Verbiage	OAA	4	Identify causes of disease in wildlife
OAA5	Same Verbiage	OAA	5	Report the observance of disease affecting wildlife to the appropriate authorities
OAA6	Same Verbiage	OAA	6	Explain wildlife disease management techniques
		OAB		INSECT INFESTATIONS
OAB1	Same Verbiage	OAB	1	Identify harmful and beneficial insects and signs of insect damage to natural resources
OAB2	Same Verbiage	OAB	2	Report observance of insect pests to the appropriate authorities
OAB3	Same Verbiage	OAB	3	Describe techniques used to manage pests of natural resources
		OAC		PUBLIC EDUCATION
OAC1	Same Verbiage	OAC	1	Identify ways in which a message regarding natural resources may be communicated to the public
OAC2	Same Verbiage	OAC	2	Design and construct a display that communicates a natural resource topic and discuss the topic in a public forum
OAC3	Same Verbiage	OAC	3	Communicate a natural resource message through the press, radio, television, or public appearances